

u n i t e d s t a t e s n a v y SHIPBOARD ENVIRONMENTAL

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Issue 5

Navy Earth Day 2000 Is 21 April—see page 19

April 2000

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Ship Environmental Protection Process Action Team Helps the Fleet

THE SHIP ENVIRONMENTAL PROTECTION Process Action Team (SEPPAT), a group of individuals from various Navy organizations (see page 16), identifies and resolves issues to help the Navy achieve the Environmentally Sound Ship of the 21st Century (ESS-21) through technology, training, policies, and procedures. The SEP PAT works with the Fleet to identify and resolve the important issues and keep the Fleet up to date on pertinent developments at the Naval Sea Systems Command (NAVSEA). Now having real success helping the Fleet with environmental requirements, the SEPPAT's contributions to the Navy's efforts were recently acknowledged by the Chief of Naval Operations (CNO), who awarded the group a 1999 environmental award.

The SEPPAT undertakes and recommends specific initiatives to ensure that ships can maintain combat readiness and operate unrestricted worldwide, while complying with all applicable environmental requirements and minimizing adverse environmental impacts, dependence on shore facilities, onboard use of hazardous materials (HAZMAT), and logistical costs for waste management. The SEP PAT provides a forum for its participants to exchange information and ideas to help keep an environmental ethic in the Navy. The following are its six active Technical Working Groups (TWGs).

- ① The *Fleetwide Environmental Questionnaire (FWEQ) TWG* is preparing the fol-

continued on page 16

Progress and Payoff from Reducing the Shipboard Hazardous Material List

THE SHIPBOARD HAZARDOUS MATERIAL List (SHML) shrunk from 50,000 to 7,000 items from its inception in 1989, but there was still room for improvement, according to participants in recent Hazardous Material Afloat (HMAP) conferences.

What was intended to provide good life-cycle control and management of HAZMAT used aboard ships was still perceived as unmanageable. Too many similar chemicals, too many units of issue for the same material, unnecessary chemicals, and too much redundancy led to poor inventory control, too much excess or used HAZMAT, and costly and inefficient HAZMAT purchases and management. Some-

thing had to be done. So in 1998, a group of Navy organizations spearheaded by the Naval Surface Warfare Center Carderock Division (NSWCCD) began the tedious effort to reduce the SHML with a two-phased program.

Phase One

In the first phase, the main objective is to review and evaluate materials in a specific categories. With help from Naval Inventory Control Point (NAVICP), the Naval Environmental Health

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Updated Afloat Sections of *Navy Environmental & Natural Resources Program Manual* Clarify Training and Procedures



CNO (N45) PROMULGATED CHANGE 2 to Operations Navy Instruction (OPNAVINST) 5090.1B (*The Navy Environmental and Natural Resources Program Manual*) in September 1999. Among other changes, it replaces all of Chapter 19 (Environmental Compliance Afloat) and supporting Appendixes K and L. Significant changes affect the following areas (see related articles throughout this newsletter for details):

- 🌊 Solid waste (see page 8)
- 🌊 Liquid waste (page 10)
- 🌊 HAZMAT (page 12)
- 🌊 Marine Mammals (below)
- 🌊 Training and Other Procedures (below)

▶ **Afloat environmental compliance inspections and assessments (Paragraph 19-2.2.6)** no longer require self-assessments and inspections by the Immediate Superior In Command (ISIC). The ISIC will schedule an intervening environmental assessment by a small group of Inspection and Survey (INSURV) industrial hygiene officers and oil-pollution-abatement (OPA), marine-sanitation-device, and plastics-

waste-processor (PWP) experts during Interdeployment Training Cycles, during which formal INSURV inspections are not conducted. *This change reduces crew-inspection and assessment workload as directed by the Fleet Review Board.*

▶ **Personnel assigned as Afloat Environmental Protection Coordinators (AEPs) (19-2.2.7c)**, if unable to attend the AEP Course (A-4J-0021) within the 6-month window following assignment, may complete the interactive courseware training. *This change answers questions about AEP training while deployed.*

▶ **New guidance on environmental planning (19-2.2.12)** announces that the Navy-issued NWP 4-11 provides commanders and their planning staffs with doctrine to accomplish assigned missions while achieving the highest possible degree of environmental protection and compliance. It also requires commanders to develop an environmental-considerations annex for each operational plan or order. *This change identifies the need for up-front environmental planning to prevent delays in operations and possible loss of training areas.*

▶ **Message format for reporting whale strikes (19-11.3.2)** encourages reporting of other interactions with marine mammals, such as helping one entangled in a net. *This change clarifies reporting requirements for whale strikes and other interactions.*

▶ **The Afloat Environmental Checklist (Appendix K) has been shortened and revised** to allow the ship and INSURV to determine the effectiveness of the Shipboard Environmental Protection Program, rather than item-by-item compliance. *This change simplifies the checklist and reduces administrative burden.*

Distributed as a part of the OPNAV/SECNAV Directives CD-ROM in January 2000 for ships to implement upon receipt, Change 2 is available at the Navy environmental documents Web page, <http://206.5.146.100/n45/doc/navydocs>. The President, Board of Inspection and Survey (PREINSURV) will begin inspecting to ensure ships meet the Change 2 requirements on 1 July 2000. (Until that day, ships need only to follow Change 1.) 🐋

MARINE MAMMALS

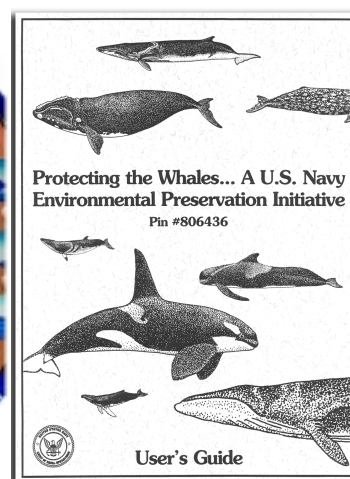
Coming Soon... Whale-Sighting Video and Whale Wheel



HOW DO YOU IDENTIFY WHALES OFF U.S. coasts and what actions should you take when you see one? Learn more about Navy operating procedures designed to protect these species with the new whale-identification video, "Protecting the Whales... a U.S. Navy Environmental Preservation Initiative" (Production Identification Number (PIN) 806436), its accompanying 6-page User's Guide (recently distributed to the Fleet; more copies are available from DAVIS on the Web (see page 3 for more information), and the new whale wheel (still in production)). These helpful guides for officers on the deck, navigators, other watchstanders, and aircraft pilots

also cover endangered whales, whale characteristics, and the laws that protect marine mammals in U.S. coastal waters. 🐋

Whale wheel mock-up, video user's guide ▶



CD AVAILABLE NOW

Solutions for Shipboard Waste Management Discussed at the 1999 Research, Development, Test, & Evaluation (RDT&E) Program Review



MR. CARL ADEMA, NAVSEA's Environmental Protection RDT&E Program Manager (SEA 05R24), hosted the Shipboard Waste Management RDT&E FY-1999 Program Review at NSWCCD, 21-22 September 1999. The purpose: to allow principal investigators to present the objectives, status, and plans for RDT&E projects that address Fleet problems with shipboard wastes and other environmental issues.

The meeting brought together sponsors, platform offices, life-cycle managers, and Fleet representatives in a continuing dialog demonstrating how NAVSEA responds to existing and emerging legal environmental requirements that impact Fleet operations, exercises, training, and readiness.

Technologies and practices being developed and proven under the Shipboard Waste Management RDT&E Program will provide ship and submarine owners and operators with solutions to meet expanding environmental laws, regulations, and policies, while reducing total ownership cost and manning. Both evolutionary and revolutionary advances are being developed for legacy ships and the future Fleet.

The Review encompassed the following:

- F Ozone-depleting substances.** Non-chloro-fluorocarbon (CFC) refrigerants for shipboard air-conditioning and refrigeration (AC&R) systems and non-Halon fire-protection systems.
- F Hazardous materials.** Minimization and substitution, pollution prevention, and medical wastes.
- F Liquid wastes.** Shipboard treatment and disposal systems for oily waste and non-oily wastewater, compensated fuel ballast systems, and sanitary (collection, holding, and transfer (CHT)) systems.
- F Solid wastes.** Submarine plastics waste and surface-ship advanced incineration.
- F Oil-spill response.** Computer modeling, spill containment, and recovered-oil logistics.
- F Contributing science and technology (S&T) efforts sponsored by the Office of Naval Research.** Plasma-arc thermal destruction and wastewater treatment technologies.

Mr. Louis Maiuri at the CNO (N452) is the resource-and-assessment sponsor for the Shipboard Waste Management RDT&E Program. **Dr. Frank Stone** (N45G) is the S&T coordinator for N45's environmental programs.

✉ **Your POCs for more about the Program Review:** Mr. Carl Adema, AdemaCM@navsea.navy.mil; and Mr. Anthony Rodriguez, SEA 05R24, 703/602-0706, RodriguezA@navsea.navy.mil

Oops! We Goofed!

The "Ships Receive First Pulpers and Shredders" article (page 5 of the February 1999 issue of *Shipboard Environmental Protection News*) lists the wrong company name for one of the pulper/shredder contractors. The correct name is Universal Technologies, Inc. (UTI).



TRAINING AIDS

Order Training Videos from the Web



THE NAVY MAINTAINS A LIBRARY OF FREE and helpful training videos for Navy personnel, including environmental training videos. Here's how to order them from the various resources.

The Defense Automated Visual Information System (DAVIS) helps Navy personnel search and get details on videos. Sponsored by the Department of Defense (DOD), the DAVIS/Defense Instructional Technology Information System at the DAVIS Web site lists thousands of audiovisual (AV) productions and interactive multimedia instruction (IMI) products. These include videotapes, films, and multimedia programs that DOD uses to support operational, training, and internal information missions. DAVIS provides each video title, description, date produced, length, PIN, estimated instruction hours, viewing format, clearance and reproduction restrictions, and video previews (when available). By entering key words, you can search, via the Internet, a database of all DOD videos. You can also search by PIN or Internal Control Number. Navy, Air Force, and Army personnel use DAVIS to order their videos. You also may order productions by other DOD services through the DAVIS Web site, which you can access via the Defense Visual Information Web site, <http://dodimagery.afis.osd.mil>.

NAVOSHENVTRACEN. To view a list of NAVOSH and HAZMAT control and management videotapes, visit the Naval Occupational Safety and Health and Environmental Training Center (NAVOSHENVTRACEN) Web site, www.norva.navy.mil/navosh/video1.htm

Navy SEIC: Watch Videos Online! At the Navy Shipboard Environmental Information Clearinghouse (SEIC) Web site, www.navyseic.com, click on "Training" and then click on "Watch environmental videos online or order copies of videos and interactive courseware (ICW)" for a list of environmental videos you can order or watch online! This site also includes links to DAVIS, NAVOSHETC, assorted Navy environmental videos from the Internet, and the International Oil-Spill Conference 1999 Webcast. You can even load RealVideo® software.



Meet CNO N45's Jim Rudroff

Mr. **JIM RUDROFF**, A SENIOR ENVIRONMENTAL Engineer, is the newest staff member in the Ship and Air Systems Branch of the Environmental Protection, Safety and Occupational Health Division (CNO N452). He is responsible for developing policy, operational requirements, and program guidance, and for supporting the resource-and-assessment sponsorship governing the Navy's Afloat Pollution Control Programs. This encompasses shipboard air, water, hazardous materials, and solid-waste media issues and subsequent pollution-prevention-and-control technologies.

Prior to joining N452 in 1999, Mr. Rudroff served as a senior materials engineer with the Naval Sea Systems Command's Material Engineering Office (NAVSEA 05M). There he was the Navy representative to the EPA and State Air Pollution Regulators for technical development and feasibility assessment for new and existing air-pollution regulations for shipbuilding and ship-repair operations.



▲ **Mr. Jim Rudroff**

Mr. Rudroff holds a Bachelor of Science degree in Chemistry from the Southern Illinois University at Edwardsville, IL, and a Master of Science degree in Civil and Environmental Engineering from the Johns Hopkins University in Baltimore, MD. 🐦

Farewell, Vince Cancila! Welcome, Skip Difelice!



THE ODS ELIMINATION TEAM WILL MISS the talents of **Mr. Vince Cancila**, who retired from Government service in 1998. Mr. Cancila served as the HFC-134a Air Conditioning & Refrigeration Fleet Conversion Manager at NSWCCD-SSES. The Team wishes Vince "fair winds and following seas."

Replacing Vince will be **Mr. Skip Difelice**. Skip heads up the Environmental Improvements Special Project Section of NSWCCD-SSES (Code 9153). Skip brings the ODS Elimination Team a wealth of talent with his experience from numerous shipboard environmental protection equipment installation programs including the Solid Waste Equipment Installation Program and the P² Afloat Installation Program. Welcome, Skip! 🐦

Get Your Whiz Wheel Yet?



Order a free whiz wheel (OPNAV P-45-111-3-98, *U.S. Navy Pollution Discharge Restrictions*)—your guide to managing all ship waste streams—by using **NSN 0420-LP-010-1720**.

If you have trouble receiving whiz wheels from the supply system or need them immediately, contact the Ships Environmental Support Office, 301/227-5245, DSN 287-5245, WenzelML@nswc.navy.mil

Baffled by a plethora of acronyms? See page 17 for **ALPHABET SOUP FOR NON-NAVY TYPES**, a quick-reference glossary to help guide you through this newsletter!

CFC-114 Conversion Program Is in Full Swing



THE FIRST SHIPBOARD CONVERSIONS OF CFC-114 chilled-water air-conditioning (AC) plants to HFC-236fa were completed in Norfolk, VA, on the USS *Normandy* (CG-60) in December 1998. Since then, Navy contractors have been busy converting another 14 plants aboard four more CG-47-Class ships in San Diego, CA. The following HFC-236fa conversions are complete:

- W** USS *Normandy*, CG-60 (2 of 4 plants converted)
- W** USS *Bunker Hill*, CG-52 (all 4 plants converted)
- W** USS *Cowpens*, CG-63 (all 4 plants converted)
- W** USS *Shiloh*, CG-67 (2 of 4 plants converted)
- W** USS *Princeton*, CG-59 (all 4 plants converted)

At the heart of all of these conversions are new state-of-the-art compressors with variable-geometry diffusers and microprocessor-control systems. Besides being more environmentally friendly, these plants also:

- W** Allow efficient operation in areas of the world with high seawater temperatures, such as the Persian Gulf;
- W** Increase efficiency, reducing operating costs;
- W** Reduce acoustic signature;
- W** Decrease logistic support and training requirements; and
- W** Increase reliability and maintainability.

Visiting the USS *Normandy* in early spring, **Chief Engineman (ENC) Delbert Duba**, Auxiliaries (A)-Division Leading Chief Petty Officer (LCPO), praised the converted plants: "These plants are the greatest things since sliced bread! They've been working like champs since they



▲ (Left to right) Mr. Skip DiFelice, Mr. Vince DiFilippo, and Mr. Greg Toms review data downloaded from the Universal Microprocessor Control System on an HFC-236fa chilled-water AC plant aboard the USS *Bunker Hill*.

were put on-line in December 1998. We constantly had to make manual adjustments to keep the old CFC-114 plants operating properly—no adjustments to the HFC-236fa plants have been necessary, even though we've been under way and operated in cold water as well as the Gulf Stream."

NAVSEA plans to convert three more ships in 2000, including the *Philippine Sea* (CG-58), *The Laboon* (DDG-58), and the *Coronado* (AGF-11).

A Win-Win-Win for the Navy

While the main purpose of these conversions is to eliminate the Navy's dependence on ozone-depleting CFC-114 aboard surface ships, we've also been able to make other improvements at the same time, according to **Mr. Greg Toms**, NAVSEA CFC/Halon Elimination Program Manager. Sailors get plants that require less

maintenance; Type Commanders (TYCOMs) get plants that cost less to operate; and the Navy protects the environment by eliminating CFC-114 and decreasing greenhouse-gas emissions as ships consume less fuel when under way and less electricity when pierside. It's a win-win-win situation for the Navy!



▲ **ENC Delbert Duba**, USS *Normandy* (CG-60) A-Division LCPO, praised the converted plants.

- ✉ **Your NAVSEA POC for the CFC-114 Conversion Program:** Mr. Greg Toms, SEA 05L12, 703/602-9025 x501, DSN 332-9025 x501, TomsGS@navsea.navy.mil
- ✉ **Your NSWCDD-SSES POC:** CFC-114 Conversion Program Supervisor Mr. Skip DiFelice, NSWCDD-SSES 9153, 215/897-1737, DifeliceAJ@nswccd.navy.mil
- ✉ **Your NSWCDD-SSES POC for HFC-236fa in-service issues:** AC Plant Life Cycle Manager Mr. Vince DiFilippo, NSWCDD-SSES 9213, 215/897-7211, DifilippoVL@nswccd.navy.mil

Navy Ozone-Depleting Substance (ODS) Advisories Updated



NAVSEA HAS SIGNED OUT THE FOLLOWING Navy ODS Advisories, all of which have an updated Navy POC list in reflecting current personnel:

- **95-01A** (Mission-critical applications of Class I ODSs);
- **96-01C** (ODS supply support); includes revised requisition and turn-in procedures for Halon 1301 portable fire extinguishers (NAVAIR only);
- **96-02A** (Refrigerant leak repair and record keeping); and
- **96-03A** (Shipboard refrigerant leak repair and record keeping).

If you would like a copy of any or all of these advisories, see the Navy SEIC home page at www.navyseic.com or contact the Clearinghouse.

CFC-Conversion Video: Tips on Installing Ozone-Friendly AC Plants



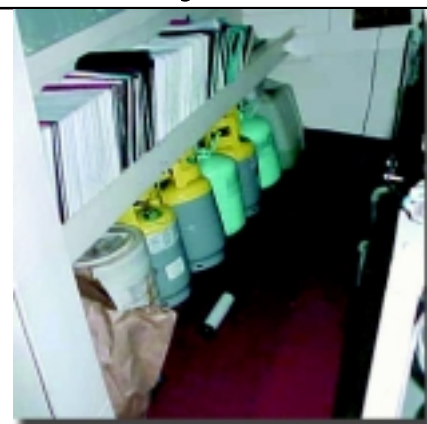
TO PROVIDE NAVY AND CONTRACTOR personnel with guidance on converting shipboard CFC-114 centrifugal-compressor AC plants to ozone-friendly HFC-236fa, SEA 05L12's new video, "CFC-114 Air-Conditioning Conversion Program: Installation Overview," covers the following:

- Safety Precautions;
- Hydrostatic Test Procedures;

- Equipment Removal;
- Compressor installation;
- Microprocessor control panel installation;
- Electrical junction box installation;
- New target flow meter installation; and
- Electro-hydraulic condenser water control valve installation.

✉ **Your Clearinghouse POC:** Mr. Pete Mullenhard,
703/416-1132, Pete@navyseic.com

Don't Buy Disposable R-134a Cylinders



Does Your Ship's Refrigerant Cylinder Stowage Look Like This?It shouldn't!

...That's because these 30-pound disposable refrigerant cylinders are not authorized for shipboard use. A ship's cylinder-stowage racks will not accommodate them. **Only Government refrigerant cylinders (painted orange) are authorized!** Although many ships that were converted from R-12 to R-134a initially had problems requisitioning R-134a in approved Government cylinders, the Defense Logistics Agency and Naval Supply Systems Command (NAVSUP) have corrected these problems.

Are you still having problems receiving R-134a in Government cylinders or getting your R-134a Government refrigerant cylinders re-filled? Contact your local Fleet Industrial Supply Center Customer Service Department.



Refrigerant-Leak Monitors Update Saves Environmental Impact and Money

A NEW REFRIGERANT-LEAK MONITOR manufactured by Parasense, Inc. (Concord, NH) has been approved for permanent shipboard installations. This selection was the result of NSWCCD-SSES efforts in market research, contracting, and testing, and it was based upon greatest value, not lowest bid.

The new monitor is the latest commercial technology and offers many more features than older halocarbon monitors now used in the Fleet. Some new features: **accurate infrared sensing eight-point sampling multiple refrigerant detection** (including HFC-236fa), and **modular parts** for easy repair/maintenance. Another new feature, **onboard alarm/event logging** allows shipboard personnel to display information about small leaks (date, time, location, concentration) that do not necessarily trigger an alarm. An alarm will sound if the concentration reaches hazardous levels. Because it detects small leaks before they develop into large leaks, it reduces the Navy's

impact to the environment and the cost of replacing lost refrigerant.

The new monitor costs about a third less than the old halocarbon monitor and is about one-fifth the cost to maintain. It will not be installed as part of ongoing CFC-conversion alterations. Separate Ship Alterations are planned. The CFC-Conversion Program will convert existing halocarbon monitors (model MIRAN984/101-GA2S) to MIRAN984/101-GA2T (for HFC-134a) or MIRAN984/101-GA2W (for HFC-236fa). Personnel on ships with the new monitor can change the refrigerant type simply by using the monitor's front panel keypad.

The new Parasense refrigerant leak monitor and older MIRAN 984/101 halocarbon monitor are the only two refrigerant-detection monitors approved for Navy shipboard installation.

✉ **Your POC:** Mr. Jim Winward, NSWCCD-SSES
Code 9213, 215/897-8783, DSN 443-8783,
WinwardJM@nswccd.navy.mil



Two MILSPECs Updates Remove ODS References

DOD-G-24508, Revision A, Amendment 4 (Grease, High Performance, Multipurpose (Metric)), dated 23 September 1998.

MIL-STD-1622, Revision B (Cleaning of Shipboard Compressed-Air Systems), dated 17 February 1999.

SUBMARINE CORNER



Coming Soon to Your Submarine: Changes in Solid-Waste Management

BY THE END OF 2008, SUBMARINES MUST retain *all* their plastics waste on board for shore disposal. Meeting this legislative requirement means significant changes in submarine solid-waste management practices. Currently, they dispose of all solid waste through a **trash-disposal unit (TDU)**. The TDU system consists of a small canister in which food waste, plastics, paper, cardboard, metal, and glass are manually packed and stored and then expelled through the hull (via its own ejection system) when operations allow and the water is 6,000 feet deep. Future submarines, however, will **retain plastics on board** and process food waste through **garbage grinders**.

Background

In 1998, the Navy came up with a new plan for managing solid waste for submarines that includes the following:

- **Continue source-reduction efforts to minimize discharges at sea.** An ongoing and very effective source-reduction effort is to remove excess packaging during load-out of the submarine prior to deployment by breaking down packaging at the pier. Efforts to minimize and eliminate plastic products brought on board will continue, with a focus on replacing plastic products and packaging with biodegradable, environmentally friendly alternatives.
- **Process grindable food waste through a garbage grinder for overboard discharge.** Using garbage grinders for food waste on SSBN-726-Class submarines has been successful for many years because they obviate the need to store food waste; reduce labor hours associated

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George Washington's Garbage Grinder Crew Gets Grubby

Excerpts from an article by Journalist Second Class (JO2) Alex Carfrae in The Flagship®, Thursday, 19 August 1999

DO YOU EVER WONDER WHAT HAPPENS to the enormous amount of trash a nuclear-powered aircraft carrier like the USS *George Washington* (CVN-73) produces every day while at sea? Up until just a few years ago, there were no shredders, melters, or pulpers.

"I can remember as late as 1987, we were still throwing most everything, except hazardous materials, over the side," said **Chief Boatswain's Mate (BMC(SW)) Virgil Bufford**, 2nd division's leading chief petty officer. "I was a BM2 [Boatswain's Mate Second Class] back then, and I had just reported to a newer ship, where they had just started burning their trash."

Although paper and food wastes quickly decompose when thrown in the ocean, plastic does not and can cause problems for marine animals and for wildlife on the shorelines.

Instead of throwing waste over the side, the USS *George Washington* uses advanced technologies in the waste-processing rooms to keep the oceans just a little bit cleaner.

GW Crew Really Sorts Trash

Electrician's Mate Third Class (EM3) Christopher Swanson said it's not as easy as setting your trash on the curb and hoping the city will take it. "The crew has to sort their trash before they bring it to us," said the Gary, IN, native, who is temporarily assigned from the E division to the amidships waste-processing room on the second deck.

"We have to turn a lot of people away because there's plastic mixed in with the paper or paper or metal mixed in with the plastic," said Swanson. Metals or plastics that find their way into the wrong machine can plug up or jam the machine, facilitating the need for a major repair.

The food-service attendants (FSAs) of the S-2 division are regular customers of the new amidships waste-processing room. "They don't have to go as far to dump the trash, they can just walk right across the mess decks to the pulper or shredder," said **Chief Warrant Officer (CWO2) Charles Wharton**, the carrier's food-service of-

ficer. "It also reduces the amount of trash we keep down there, because once a bag is full, the FSA just runs it over to the pulper."

Added during the availability were four highly specialized machines, each to process a specific type of waste. First, there's the **pulper**, the overgrown cousin to the garbage disposal in your kitchen sink. The Navy's version uses seawater to help turn waste food, paper products, or cardboard into tiny pieces—less than a quarter of an inch. The waste "pulp" is then pumped over the side of the ship.

The new **incinerator** in the aft waste-processing room can burn paper, cardboard, and other materials that aren't pulvable. "The incinerator burns in excess of 1,400 degrees Fahrenheit," said **MMC(SW) Steven Foster** of the N division, which owns the waste processors.

Plastics Waste: GW Processes a Ton Per Day on Board



Plastic is handled differently from burnable or pulvable trash in that it is first shredded in a machine that rips it into small strips, as a paper shredder. The shredded material is then loaded into the compress/melt unit (CMU), which does exactly what its name implies—compresses and melts the load into a disk about 18 inches in diameter and an inch thick. After the 40-minute process is complete, the operator removes the disk and places it in an odor-barrier bag for storage on board. Once in port, the disks are turned over to a recycler.

"We upped our capacity to process plastics by adding five CMUs to the ship," said Foster. Now, with a total of nine **plastics-waste processors** on board, the *George Washington* crew can process more than a ton of plastics in a 24-hour period.

Like plastics, glass and metals are shredded into small pieces. "I would love to be able to turn all of this scrap aluminum in and give the money to morale, welfare, and recreation," said Foster, "but the amount of storage space required for all of that scrap would be unfathomable." 🐼

Clean wake: What it's all about!



Changes to Solid-Waste Guidance from OPNAVINST 5090.1B

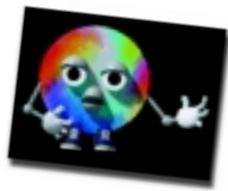
CHANGE 2 to OPNAVINST 5090.1B (see page 2) has the following significant changes relating to solid wastes:

► **Because ships must not discharge plastics (paragraph 19-7)** to the marine environment, there is new guidance on what to do in the event of an inoperable PWP and on discharging unprocessed garbage to an "in effect" Special Area. Personnel who operate and maintain solid-waste processors, shredders, and pulpers must

complete the Plastics Processor CBT (A-690-0003) and the Pulper/Shredder CBT, (A-690-0004). *This change reflects recent legislative changes to the Act to Prevent Pollution from Ships; clarifies the training requirements for processing-equipment operators or maintenance personnel.*

► **Ships may dispose of noninfectious medical waste as garbage (paragraph 19-8.3.g) without steam-sterilization or special handling;** ships should process it like similar solid wastes—

plastics sent to the PWP, paper and cardboard to the pulper, and glass and metal, excluding sharps (syringes, suture needles, etc.) to the shredder. Ships must establish a system to track storage and disposal of infectious medical waste. *This change clarifies requirements for disposing medical waste; incorporates existing Bureau of Medicine medical-waste definitions.*



Navy Wins Environmental Quality and P² Awards Recognizing the Plastics-Waste Processor, Recycling, and Efficiency on Board



BELOW ARE JUST A FEW OF THE AWARDS the Navy won at the CNO ceremony on 29 March 1999 for reducing shipboard waste!

Environmental Quality: Large Ship

USS *Belleau Wood* (LHA-3): "Efficiency" was the key word for this ship as it minimized its impact on the environment. Recognized as the most fuel-efficient ship in the Pacific Fleet by the Commander-in-Chief, the *Belleau Wood* also has an extraordinary HAZMAT program, reducing the amount bought, stocked, or stored, and saving more than \$400,000 in

purchases over 2 years. The ship successfully tested the new Model C50 OWS, virtually eliminating oily waste production and discharging effluent water in an environmentally sound way.

Environmental Quality: Small Ship

USS *Russell* (DDG-59): Because it aggressively seeks ways to reduce waste and costs while strictly adhering to environmental compliance regulations, the *Russell* was the first DDG-51-Class ship to be outfitted with the **New Emergency Automatic Lighting System**, which eliminated the excess HAZMAT associated

with the archaic system. The *Russell* has incorporated fuel reductions, training, and recycling into everyday shipboard life, minimizing waste, reducing costs, and contributing to readiness for at-sea operations.

P²: Weapon System Acquisition

The PWP: The PWP system, now a reality on board every Navy ship, treats nearly 5.5 million pounds of plastics waste each year, reducing the volume of plastic by 30 to 1 in 45 minutes, and the resulting 12-pound disk is sealed in an odor-barrier bag for storage on board until the ship reaches port.

Successful 1999 Fleet Environmental Conferences

GOOD NEWS FROM BOTH OF LAST YEAR'S environmental conferences in San Diego, CA, and Norfolk, VA: ships, TYCOMs, Fleets, and NAVSEA staff exchanged information and lessons learned on solid-waste-equipment installation, design, operation, maintenance, and support. **Mr. Joel Krinsky** (SEA 05L1) chaired both the Pacific

Fleet and Atlantic Fleet conferences, where numerous commands were represented and presented on topics such as P²A; CFC and Halon elimination; solid-waste legislation and regulations; installation schedules and status; resources and POCs available to the Fleet; pulper and shredder equipment and spares disbursement; AIT installation, verification, and certifica-

tion process; solid-waste equipment operations and maintenance lessons learned; PWP equipment upgrades and overhauls; solid-waste equipment integrated logistics support; and RDT&E on new thermal-destruction technologies. For your complete copy of presentations from the conferences, see the SEIC Web Site, www.navyseic.com.



SUCCESS STORIES

Submarine Plastics Waste: It's in the Bag!

continued from page 7

with handling food waste; reduces the number of required TDU evolutions and associated cans, waste, maintenance, and noise. All SSN-688-Class submarines will be equipped with garbage grinders over the next few years. Both the *Seawolf* (SSN-21) and *Virginia* (SSN-774) classes have been designed to incorporate garbage grinders.

- **Discharge nongrindable food waste through the TDU in biodegradable, nonplastic, cloth wet bags.** NSWCCD, NAVICP, and NAVSUP have identified suitable cloth wet bags to replace the current plastic mesh ones.
- **Continue to discharge all other nonplastic solid waste through the TDU.**
- **After 2008, retain plastics waste on board for shore disposal.** NSWCCD has identified a viable, cost-effective solution for retaining plastics waste.

Storing Plastics Waste

Because of the space limitation, enclosed atmosphere, and the requirement for stealth in submarine operations, finding viable, efficient, and safe locations was a significant challenge. Because of different space arrangements and configurations, a unique plastics-stowage sys-

each was outfitted with a garbage grinder and a plastics-waste storage locker.

The two boats produced 31 SPWCBs weighing 656 pounds, an average of *less than one SPWCB generated per day!* The SPWCBs were stored on board easily with no odors. The

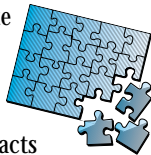
crew of both boats enthusiastically endorsed the SPWCB as simple and effective. The plastic-waste storage locker in the Wardroom Pantry was ideally located and did not interfere with galley operations. The garbage grinder effectively processed food waste. Command-level attention, source segregation of plastics from nonplastics waste, and crew training in plastic identification and proper equipment-operating procedures are essential to the successful Fleetwide implementa-



▲ **Submarine Plastics Waste Containment Bag (SPWCB) Process**

How We Solved the Plastics Puzzle

A simple process solved our two main concerns associated with holding plastics waste by significantly reducing the waste volume and containing the odors created by food-contaminated plastic. Each submarine's **trash-compactor unit (TCU)** compacts plastics waste directly into a high-strength odor-barrier bag, which we call a **submarine plastics waste containment bag (SPWCB)**. This achieves an average volume reduction of 20:1, significantly reducing the storage space required. By compacting the plastics waste directly into the SPWCB, and then overwrapping and heat-sealing the compacted bag with another SPWCB, we can provide an effective odor and sanitary barrier for food-contaminated plastics (see graphic).



tem was required for each of the four classes of submarines.

On the *Los Angeles* (SSN-688) Class, for example, the best storage place for plastics waste was found in the outboard area of the Wardroom Pantry, once its seldom-used sanitizing sink with an under-the-counter locker was removed. On the *Ohio* (SSBN-726) Class, the first dry-provision stowage module, once emptied of its contents, is suitable. On the *Seawolf* (SSN-21) Class, potential storage locations have been identified but need additional analysis. On the *Virginia* (SSN-774) Class, a space adjacent to the trash room will provide 85 cubic feet of storage space.

At-sea demonstrations were conducted aboard two SSN-688-Class submarines (the *USS Montpelier* (SSN-765) and the *USS Tucson* (SSN-770)) first, because they are most space constrained and required alterations—

tion of the Navy's submarine solid-waste management system.

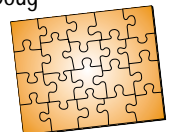
An important lesson learned was that all hands must be involved in the source segregation of plastics waste so that the TCU/TDU operator does not become overburdened with plastics-waste processing.

☛ Your submarine environmental POCs: Mr.

Dave Cartwright, SEA 92TE, 703/602-8096 x475, CartwrightDA@navsea.navy.mil, or Mr. Stephan Wassel, SEA 92TE1, 703/602-8096 x474, WasselSP@navsea.navy.mil

☛ Your NSWCCD POC for submarine solid-waste management: Mr. Doug

Vaughters, NSWCCD Code 634, 301/227-5178, VaughtersDS@nswccd.navy.mil



OPNAVINST 5090.1B UPDATE

Navy Environmental Program Manual Changes Oily Waste, Graywater, and Blackwater Policy



C HANGE 2 to OPNAVINST 5090.1B (see page 2) makes the following significant changes to liquid-waste policy:

► **New guidance for access to ships (Paragraph 19-2.2.3)** and the release of information during Navy oil spills. *This change addresses ship-access issues experienced in some Navy ports.*

► **Personnel assigned to supervise sewage or graywater-disposal operations (19-3.4)** must now complete the Shipboard Sewage CHT Course (K-652-2141) before assuming these duties. Personnel who operate or maintain sewage- or graywater-disposal equipment shall complete the Shipboard Sewage CHT and Treatment Personnel Qualification Standards

(PQS) (NAVEDTRA 43199-C) prior to assignment. *This change clarifies the training required to handle sewage or supervise sewage-disposal operations.*

► **Oily Waste section (19-5) now addresses submarine bilgewater processing tanks**, a new device aboard ships. This section also provides guidance on processing and disposing of oil-contaminated solid waste. Ships must notify receiving shore activities prior to off-load if oily waste has become contaminated from non-routine sources. Personnel assigned to supervise oily waste process-and-disposal operations must complete the OPA Equipment Operation and Maintenance Course (K-652-2196) before assuming these duties. All personnel

who operate or maintain oil-processing, transfer, or disposal equipment must complete the Oil Spill Control and Removal Equipment PQS (NAVEDTRA 43195-B) before assignment. *This change protects shore activities from receiving contaminated bilgewater; clarifies training requirements for personnel.*

► **Ships must have one petty officer (19-9.3c)** in each in-port fire party and each repair party qualify as Oil/Hazardous Material (Substance) Spill Response Scene Leader in the Hazardous Material/Environmental Protection Programs Afloat PQS (Watchstation 304, NAVEDTRA 43528-A). *This change clarifies training requirements for oil-spill cleanup personnel.*

Is Your Oil-Content Monitor Calibrated?

T HE ET-35N OIL-CONTENT MONITOR (OCM) requires calibration of the Sample and Detection Sub-Assembly (SDA), P/N ST1037-1, and Processor Printed Circuit Board (PCB), P/N ST1004, as a matched set every 2,000 hours of operation (about 1 year).

Calibrated SDA/Processor PCB matched sets, along with Elapsed Time Indicator P/N ST1043 and shipping case, are now available through the stock system as calibration kits. Below are the National Stock Numbers (NSNs) for these kits:

■ **15/70-ppm calibration kit:** NSN 7H 6625-01-456-5671

■ **200-ppm calibration kit:** NSN 7H 6625-01-456-5669 (this kit is used only for polymeric polishing units installed on board some DDG-51-Class ships).

All the components of the calibration kit are turn-in items. Once these components are



▲ **ET-35N calibration kit**

installed per MIP 5932/018-46, the old components must be put into the shipping case and returned to the supply system for refurbishing, calibration, and reintroduction as new kits.

Use of the calibration kit for the ET-35N OCM brings the unit back to "like-new" operating conditions and incorporates warning-light and digital-display modifications. The kits also include other modifications to improve reliability and maintainability, such as upgrades of the sampling cell to quartz versus silica.

The Planned Maintenance System and Allowance Parts List were revised to reflect this new process for the ET-35N OCM.

► **For more about the ET-35N calibration program**, go to the "Oil" page on the Navy SEIC Web site at www.navyseic.com (see links for Pollution Abatement Presentations from the Fleet/NAVSEA Shipboard Environmental Protection Conferences and the ET-35N OCM-Calibration Fleet Advisory).

✉ **Your NAVSEA POC:** Mr. Brad Smith, SEA 05L13, 703/602-8144 x202

✉ **Your NAVICP POC:** Mr. Tim McCaw, Code 05829, 717/605-1904

Good News from 4th Annual Oil-Pollution Abatement Conference



THE NAVSEA-SPONSORED OIL-POLLUTION Abatement Conference (the 4th annual was in August 1999 in Norfolk, VA) provides an open forum for members of the Fleet, the Fleet Technical Support Center (FTSC), NSWC, INSURV, CNO N45, and other related Navy groups to discuss shipboard OPA-equipment issues. Presentation topics of this year's conference included the following:


- An update on Uniform National Discharge Standards (UNDS) (see article below);
- An overview of remaining shipboard OWS/OCM installations;
- Details on OWS and OCM improvements;
- The new OCM-calibration kit;
- An overview of the OPA Certification Program;
- Details on the Oily Waste Ultrafiltration Membrane Project status;

- An update and overview of the model Shipboard Oil-Spill Contingency Plan; and
- A discussion of OPA training issues.

Once again, training deficiencies were identified as a major inhibitor to the effective operation of OPA equipment. NAVSEA is working hard to rectify the problems of high turnover of people and lack of access to classes and materials. In conjunction with FTSC and NSWCCD-SSES, NAVSEA has established Job Qualification Requirements (JQRs) for the OBP-10NP OWS and the ET-35N OCM, developed a training video for new and existing OPA equipment, completed training materials to be used by FTSC, Atlantic and FTSC, Pacific during the OPA-certification inspections, and arranged for new/updated OPA FTC courses to be conducted in Norfolk, VA, and San Diego, CA. Information on the OPA FTC courses is available

at three Internet sites: NAVSEA, Catalog of Navy Training Courses, and Navy Synergy Database. Ongoing efforts include developing JQRs for remaining OPA equipment, distributing training tools during OPA-certification inspections, developing an interactive CD-ROM for computer-based training, and providing training workshops at the deckplate level in all major ports.

YOUR FEEDBACK IS IMPORTANT. Most of the new OPA-improvement efforts being implemented by NAVSEA are a direct result of the feedback obtained from the Fleet. Each year, we appreciate that we receive a great deal of valuable feedback on the equipment reliability and OPA-program effectiveness from the Fleet members who attend the conference.

✉ **Your POC:** Mr. Brad Smith, SEA 05L13, 703/602-8144 x202 

UNDS UPDATE

Phases II and III for Uniform National Discharge Standards



IN MAY 1999 EPA AND DOD ISSUED the final rule for **Phase I** of UNDS, which describes the types of discharges generated incidental to the normal operation of Armed Forces vessels and identifies which of these discharges the Armed Forces will be required to control, and which ones they will not.

The intent of UNDS is to establish a nationally consistent set of effluent standards that enhance environmental protection and provide the Armed Forces with mission-required operational flexibility. The UNDS effort comprises three phases; each culminates in a distinct milestone. Phase I is now completed. **Phase II** will promulgate Federal performance standards for **marine pollution control devices (MPCDs)**. (An MPCD is any equipment or management practice designed to treat, retain, or control discharges incidental to the normal operation of an Armed Forces' vessel.) **Phase III** will promulgate DOD regulations governing MPCD design, construction, installation,

and use. The Navy has the lead for DOD in completing the UNDS-rule-making process.


Background on UNDS

UNDS extends the principle of **marine sanitation devices (MSDs)**—devices used to control or process sewage—to a new class of vessel-pollution-control devices, MPCDs. The Secretary of Defense and the EPA Administrator will promulgate standards for discharges requiring control. During Phase I, UNDS legislation requires the Navy and EPA to:

- ✶ **Jointly determine** the discharges incidental to the normal operation of a vessel of the Armed Forces for which it is reasonable and practicable to require MPCD use to mitigate adverse impacts on the marine environment;
- ✶ **Consult** with Department of Transportation (U.S. Coast Guard) and other interested Federal agencies and States;

- ✶ **Consider** the rule-making factors in deciding which vessel discharges will and will not require control; and
- ✶ **Promulgate** the rule listing discharges that require MPCDs and those that do not.

UNDS does *not* include sewage or solid waste, but does include deck runoff and other non-point-source discharges.

- ▶ **Links to the proposed rule and to the UNDS home page** are on the Navy SEIC Web site, www.navyseic.com, under "What's Hot or New?" Or check out the UNDS home page at <http://206.5.146.100/n45/doc/unds/unds.html>.
- ▶ For more information, see a summary of the UNDS effort on page 8 of the Summer 1997 issue of *Shipboard Environmental Protection News*. Contact the SEIC for copies! 



P² Afloat Jumps Into Shipboard Equipment Installations

Program Has Been Providing Real-Time Solutions to Shipboard HAZMAT Problems Since 1995



NAVSEA AND NSWCCD LAUNCHED their Pollution Prevention (P²) Afloat Equipment Fleet Transition Program last year with the "Jump-Start" implementation phase, during which partial suites of P² equipment are installed aboard selected ships. The following ships have received the Jump-Start installations as of March 2000:

- USS *Antietam* (CG-54)
- USS *Normandy* (CG-60)
- USS *Carr* (FFG-52)
- USS *Thorn* (DD-988)
- USS *Gonzalez* (DDG-66)
- USS *Nassau* (LHA-4)
- USS *Supply* (AOE-6)
- USS *Anzio* (CG-68)
- USS *Saipan* (LHA-2)
- USS *Dwight D. Eisenhower* (CVN-69)
- USS *Vicksburg* (CG-69)
- USS *Ingraham* (FFG-61)



▲ *Cable cleaner and lubricator saves labor and reduces oily rag waste.*



▲ *Sailor uses a mercury-ion exchange system to remove mercury from boiler-feed water-chloride test samples.*

▼ *Paint dispensers (prototype aboard the USS Arctic) control paint quantities issued and reduce cleanup requirements.*



Full Fleet implementation, the second phase of the P² Afloat Equipment Fleet Transition Program, is scheduled to begin with the installation of full P² equipment suites in the fourth quarter of FY 2000.

The P²A Program began in 1995 to provide real-time solutions to shipboard HAZMAT problems while ensuring full Integrated Logistics Support for all equipment, which, once installed on board, will:

- W **Reduce** HAZMAT procurement costs;
- W **Reduce** used-HAZMAT off-load, handling, and disposal costs;
- W **Provide** labor savings;
- W **Improve** safety and health for sailors; and
- W **Help** Navy Homeport facilities meet P² goals.

✉ **Your P²A POC:** Ms. Mary Jo Bieberich, NSWCCD Code 632, 301/227-4978, DSN 287-4978, BieberichMJ@nswccd.navy.mil

5090.1B Change 2 Affects Ship HAZMAT Discharge, Paints Policy

CHANGE 2 to OPNAVINST 5090.1B (*The Navy Environmental and Natural Resources Program Manual*) (see page 2) provides the following on HAZMAT:

► **New guidance on shipboard marine-coating use (paragraph 19.4.3.2.k)** that includes new record-keeping and reporting require-

ments. The change also provides volatile organic compound (VOC) limits for various shipboard applications and prohibits ship's force thinning of marine coatings with anything except water. *This change reflects recent changes to regulations on National Emission Standards For Hazardous Air Pollutants (NESHAPs).*

► **Revisions to Appendix L, Disposal of Shipboard Hazardous Material**, to promote easier identification of HAZMAT-discharge requirements. *Reduces administrative burden for ships.*





Progress and Payoff from Reducing the Shipboard Hazardous Material List

continued from page 1



Center, and Naval Aviation Depot Jacksonville, they identify the HAZMAT actually needed on ships, i.e., called for by maintenance and technical documentation (NSTMs, MRCs, and AELs). Items having no application or requirement on board are eliminated from the SHML. Similarly, redundant items on the SHML are deleted. Of the 7,000 materials listed on the SHML as authorized materials, 3,700 have been reviewed as of October 1999. The categories include paints and coating systems, greases, oils, sealants/adhesives, and fluids—most maintenance materials used in the Fleet. About 54 percent of the 3,700 materials have been eliminated or prohibited.

Phase Two

The second phase will further simplify the list and assure that proper health, safety, and environmental information is provided for all listed materials. This phase will focus on developing new or revising existing Commercial Item Descriptions (CIDs) for products that satisfy a specific Fleet application (i.e., various cleaning-compound applications). New CIDs

Special Focus on Reducing HAZMAT Afloat Workload

The Fleet Review Board (FRB) is looking to reduce the workload associated with the management of HAZMAT afloat. To achieve this goal, the FRB has requested that items categorized as hazardous but of minimal risk to the end user (many of our common cleaning supplies) not require the same rigid storage and central control as more toxic material. Several common cleaners, for example, currently are classified as HAZMAT and must be carefully managed and tracked via the HAZMAT Minimization Center (HAZMINCEN), even though they are of minimal risk. Requesting, issuing, and returning these materials to the HAZMINCEN places a significant workload on ship's force and the HAZMINCEN staff. At FRB direction, CNON45 and NAVSUP are designating certain materials with a Material Management Indicator, which makes HAZMINCEN's management of these materials optional. The results of this effort should be published soon in a revised OPNAVINST 5100.19C (NAVOSH Manual).

would be based on available products that meet specific Fleet requirements. Existing CIDs would be revised to qualify state-of-the-art, environmentally friendly products and eliminate previously used products that present risk to the end user.

This specification-revision process will establish specifications for the Fleet to choose products with known characteristics for a specific ship application; decrease variability of product performance from ship to ship; eliminate redundancy of like materials in the ship's stock system; and reduce manpower required to manage HAZMAT. It will also eliminate sole-source manufacturers and promote fair-market competition.

The remaining 3,300 items are under evaluation. By September 2000, Phase One should reduce by 56 percent all authorized materials on the SHML. Phase Two should yield an additional 15-percent reduction by September 2002.

✉ **Your POC:** Mr. Bruce Lundy, NSWCCD-SSES
Code 631; 215/897-7640;
LundyB@nswccd.navy.mil

SOLVENTLESS COATINGS FOR SHIPS

Navy Solventless Coatings Prevent Pollution, Reduce VOC Emissions, and Lower Ship-Maintenance Cost

NAVSEA's MATERIALS ENGINEERING Office (SEA 05M) has an ongoing program to identify, validate, and approve solventless, edge-retentive coatings that can be used in ballast tanks on Navy ships.



SEA 05M has approved the following coatings for use in Navy ship tanks (all are high-solids products that have passed a rigorous series of qualification tests):

Coating	Vendor	Application
Sigmaguard BT 7541	Sigma Coatings	Ballast Tanks
Duraplate UHS	Sherwin Williams	Ballast Tanks
Edgeguard	Sigma Coatings	CHT Tanks

The 20-year service life that SEA 05M anticipates tanks will achieve with these coatings can help prevent pollution and lower ship-maintenance costs. During initial application, the solventless coatings **reduce VOC emissions by 89 percent** because they contain much fewer VOCs than alternative Navy paints.

Conventional solvent-bearing Navy tank coatings, such as MIL-P-24441, emit up to 340 gm/l of VOCs. Over 20 years, the solventless coatings compound the VOC reductions because the tanks need not be re-coated as often as with conventional coatings.

✉ **For more information,** go to www.maintenance.navsea.navy.mil and complete the site registration form, or call Mr. Fred Berry or Mr. Mark Ingle, P.E., at 703/602-0145.



Thank You, Mr. Larry Koss, Mr. Joel Krinsky, CDR Steve Markle!

THE CNO THANKS AND WISHES CONTINUED success to **Mr. Lawrence J. Koss**, who retired in August 1999 from over 40 years of civilian Navy service. Since 1980, Mr. Koss has served as the Head of the



▼ **Mr. Larry Koss earns his Meritorious Civilian Service Award from DCNO (Logistics)**



Ship & Air Systems Branch of the Environmental Protection, Safety, and Occupational Health Division (CNON452). Mr. Koss was the visionary behind the ESS-21 concept and was directly responsible for developing many of the Navy shipboard environmental protection policies and requirements that are in effect today. In addition, he chaired NATO's Special Working Group 12 for Maritime Environmental Protection, where he led the effort to share technologies that improve maritime environmental protection and international cooperation, from the Group's inception until his retirement from Government service. Mr. Koss received a Department of the Navy Meritorious Civilian Service Award in recognition of his outstanding contributions to the success of the Navy's shipboard environmental protection, safety, and health programs. Mr. Koss continues to support the Navy's shipboard environmental programs.

Also, SEA 05L wishes continued success for **Mr. Joel Krinsky**, who retired in December 1999 from 31 years of civilian Navy service. He took the Navy lead for the Montreal Protocol and started the Navy's CFC/Halon Replacement Program in 1987, and in 1988 he started the SEIC (as the CFC/Halon Information Center). Awarded EPA's Stratospheric Ozone Protection Award in 1994 and the same award for Best of the Best at the 10-year anniversary of Montreal Protocol 1997, Mr. Krinsky has served as the head of NAVSEA's Environmental Programs Division (SEA 05L1) since 1995, responsible for all Navy shipboard environmental programs. Under his leadership, the Navy met the requirement to install PWP's on all ships and began installing pulp-



▲ **Mr. Joel Krinsky with his EPA award for stratospheric ozone protection**



▲ **CDR Steve Markle with shred bag for shipboard metal/glass shredder material**

ers and shredders in accordance with the FY 1994/1997 Defense Authorization Acts. Mr. Krinsky continues to support the Navy's shipboard environmental programs.

SEA 05L also bids a fond farewell to **CDR Stephen P. Markle**, who has moved on to manage the Auxiliary Dry Cargo Carrier T-ADC(X) Program. During his 3 years at 05L, CDR Markle was an enthusiastic and highly visible advocate of the Navy's shipboard environmental protection programs and was the driving force behind the success of the Navy SEIC and this newsletter. He was also the leader of the SEP PAT and the executive producer of several training materials and videos on protecting the marine environment in which the Navy operates. 🐟

Available Now under "What's Hot or New" at the Clearinghouse Web Site: www.navyseic.com

- 📎 Presentation on the Navy's Award-Winning Stratospheric Ozone Protection Program (Slides and streaming video)
- 📎 Get your copy of the new *Guide to Environmental Compliance Afloat!*

- 📎 Link to the INSURV NAVOSH and Environmental Protection Web Site
- 📎 Presentations from the 1999 Fleet/NAVSEA Shipboard Environmental Protection Conferences in Norfolk and San Diego

- 📎 Environmental Considerations in the Systems Acquisition Process, a Joint Publication of Sweden and the United States
- 📎 ET-35N Oil-Content Monitor Calibration Information (see page 10) 🐟

Meet NSWCCD's Mary Wenzel



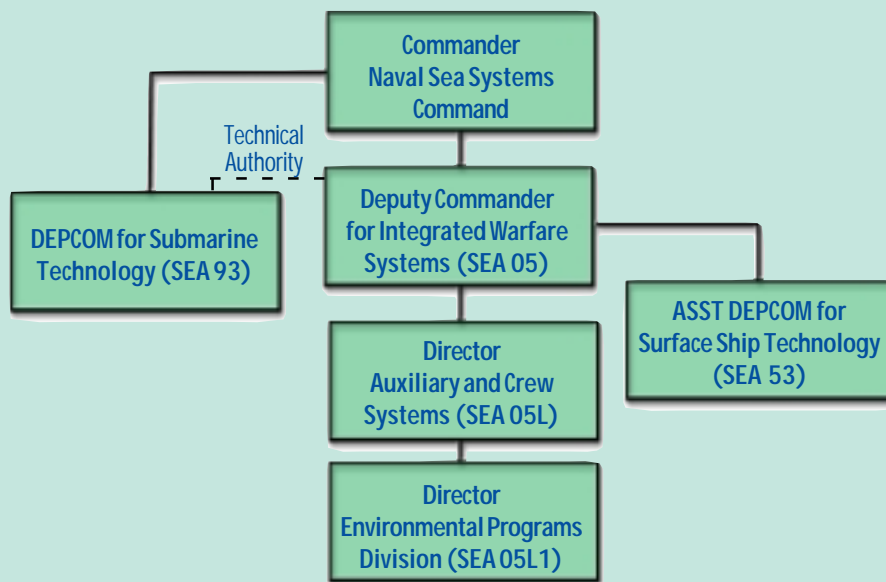
▲ Ms. Mary Wenzel

AN ENVIRONMENTAL-PROTECTION SPECIALIST, **Ms. Mary Wenzel** manages the Navy's Ships Environmental Support Office at NSWCCD. She is responsible for collecting, disseminating, and archiving ship-discharge characterization and generation-rate data to facilitate Navy ship compliance with international, Federal, State, and regional environmental regulations and standards.

Ms. Wenzel is now performing shipboard assessments to identify constituents that could potentially contribute to weather-deck runoff in support of the Navy/EPA effort to establish Uniform National Discharge Standards for incidental ship wastewaters. A member of NAVSEA's Ship Environmental Protection Process Action Team (SEPPAT, see page 1 for details), she is leading the 2000 Fleetwide Environmental Protection Questionnaire Survey Team. Ms. Wenzel also participates on the Environmental and Logistics Panel for the Information Exchange Program, Annex R-ABCANZ-98-04, between the navies of the United States, Britain, Canada, Australia, and New Zealand, and is a member of the policy committee.

Ms. Wenzel served on active duty in the U.S. Navy from 1972 to 1977. In 1980, she began her civilian Navy career at NSWCCD. Prior to her current position, she was a chemical engineering technician and a project manager for RDT&E programs in tribology and environmental protection. 🐙

Update Your Address Book: NAVSEA's Environmental Programs (SEA 03L) Is Now SEA 05L



AS PART OF THE ONGOING EFFORT TO strengthen and improve corporate NAVSEA Headquarters, the NAVSEA Environmental Programs Division realigned and redesignated itself on 1 October 1999 from SEA 03L1 to SEA 05L1.

The SEA 05L1 realignment is part of the over-arching realignment that realigned and redesignated SEA 03 as SEA 05, the Integrated

Warfare Systems Directorate. The former SEA 05 was redesignated as SEA 53, the Surface Ship Technology Directorate. The former SEA 92D and SEA 92R were realigned and redesignated as SEA 93, the Submarine Technology Directorate. Except for the code change from 03L1 to 05L1, all functions and personnel in the Environmental Programs Division remain unchanged. 🐙

NASA Astronaut Winston Scott Stars in PSAs, Environmental Videos

U.S. NAVY CAPT WINSTON SCOTT, A NASA Astronaut who's flown as a mission specialist on space shuttles *Columbia* and *Endeavour*, has generously donated his time and services to the production of several Navy videos and public-service announcements (PSAs). CAPT Scott's involvement provides a unique global environmental perspective and showcases his enthusiasm

for advancing the Navy's environmental programs for the Fleet. You can see him in the new all-hands video, "Your Ship, the Environment, and You," the new whale-identification video, and PSAs touting the Navy's Environmental Stewardship Flagship Volunteer Program, natural-resource protection, and recycling. 🐙



One Action Team That Really Makes a Difference

continued from page 1

low-on survey to the original 1997 FWEQ, based on its recommendation to continue to conduct surveys to ensure continued environmental compliance and to provide Fleet feedback and additional analysis by ship Class. This TWG is now finalizing the 2000 FWEQ schedule.

- ② The goal of the **Communications TWG** is to research and improve communication links within the Navy, particularly between NAVSEA and the Fleet. The 1997 FWEQ found that accurate information is not consistently available to the first line of defense, the deckplate Sailor. One significant milestone has been the production of the all-hands environmental video, "Your Ship, the Environment, and You" (PIN 806435). Filmed on board the USS *Decatur* and USS *George Washington*, this video should enhance Sailors' awareness of their environmental roles and responsibilities. Short "spots" to be used for shipboard closed-circuit TV and Navy News PSAs also have been produced.



◀ **Be entertained and educated about environmental compliance as Bill G. Baylor (get it?) and other environmental Sailors guide you through the rules of protecting oceans in this new all-hands video, "Your Ship, the Environment, and You"!**

- ③ The **Reference TWG**, led by **Ms. Mary Wenzel** (NSWCCD 632, see photo page 17), is based on the 1997 FWEQ recommendation to develop a reference summary document detailing environmental regulations and compliance for the Fleet. Shipboard crews had difficulty researching instructions in the shipboard environment and found conflicting information in multiple references. The recently updated *Guide to Environmental Compliance Afloat* compiles environmental regulatory requirements

specific to afloat units and was recently delivered to the Fleet.

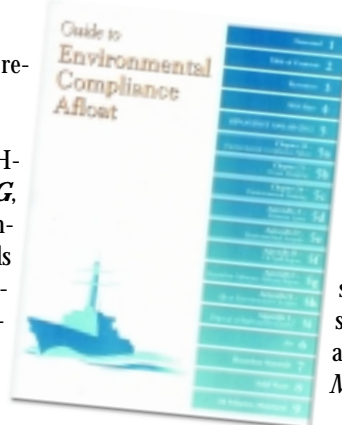
- ④ **LT Rusty Hulett** of NAVOSH-ETC chairs the **Training TWG**, whose focus is to enhance training of AEPCs and give them tools to train crew members in environmental-protection requirements. This TWG reviews existing Navy afloat environmental training programs and recommends improvements. It has developed Interactive Courseware for the AEPC course to allow more flexible training. The *AEPC Reference Library* CD includes an excerpt book, OPA book, solid-waste sorting chart, and sea-mammal brochure. It also contains three videos ("Your Ship, the Environment, and You" (details at left) and two solid-waste-



◀ **The AEPC Reference Library CD is a SEP PAT production**

training videos, "War on Pollution I" and "War on Pollution II", lists of Web sites and courses, the *Solid Waste Management Guide*, the *Medical Waste Management Guide*, OPNAVINST 5090.1B Change 2 afloat excerpts, graphics for use in presentations, and information on NESHAP-compliant paints.

- ⑤ The **Source-Segregation/Solid-Waste TWG**, led by **Mr. Darryl Sheedlo** (PMS 307/SEA 91), develops equipment and procedures to help ships implement effective solid-waste source-segregation plans as part of the overall shipboard solid-waste-management program. It is working toward acquiring standardized waste containers to segregate solid waste into three categories—paper and food,



metal and glass, and plastic. Suitable containers will be selected and made available through the Navy Supply System. This TWG also will produce videos about sorting solid waste and cleaning solid-waste equipment and revise the *Solid Waste Management Guide*.

- ⑥ The **Ship Design TWG**, led by **Mr. Anthony Rodriguez** (SEA 05R24B), will evaluate and propose design guidance and draft performance specifications for achieving and maintaining the ESS-21. This may include revising specifications and developing an ESS-21 handbook.

Who Is the SEP PAT?

The SEP PAT reports to the Environment Protection Systems Quality Management Board, chaired by CNO N45. The chairperson is NAVSEA's Deputy Commander for Integrated Warfare Systems (SEA 05). The team leader is Deputy Director, Environmental Programs Division (SEA 05L1B). PAT staffers comprise policy, technical, and functional experts from NAVSEA (05/00T/91/92), Program Execution Offices (PEOs), the Fleet (CLF, CPF, SUBLANT, CNAP, and CNSL), NAVOSHETC, CNET, NAVSUP, PREINSURV, N45, MSC, and NSWCCD Code 63, who are designated as authoritative representatives of their organizations.

For more information, visit the SEPPAT link from the SEIC Web site, www.navyseic.com.

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ALPHABET SOUP FOR NON-NAVY TYPES

What do all those acronyms mean?
A quick-reference glossary:

AC&R: Airconditioning and refrigeration
AEL: Allowance Equipage List
AEPC: Afloat Environmental Protection Coordinator
AIT: Alteration Installation Team
ASNE: American Society of Naval Engineers
ATD: Advanced Technology Demonstration
CAPT: Captain
CFC: Chlorofluorocarbon
CDR: Commander
CNO: Chief of Naval Operations
CV; CVN: Aircraft carrier
DOD: Department of Defense
DSN: Defense Switched Network
EPA: Environmental Protection Agency
ESS-21: Environmentally Sound Ship of the 21st Century
FTSC: Fleet Technical Support Center
FY: Fiscal year
HFC: Hydrofluorocarbon
HAZMAT; HM: Hazardous material(s)
INSURV: Board of Survey and Inspection
LCDR: Lieutenant Commander
LNTFLT: Atlantic Fleet
LT: Lieutenant
LTCOL: Lieutenant Colonel
MACHALT: Machinery Alteration
MAINTTECH: Manufacturing Technology Program
MILSPEC: Military specification
MRC: Maintenance Requirement Card
MSC: Military Sealift Command
MSG: Message
NAVAIR: Naval Air Systems Command
NAVFAC: Naval Facilities Engineering Command
NAVJCP: Naval Inventory Control Point
NAVOSH: Naval Occupational Safety and Health
NAVSEA: Naval Sea Systems Command
NAVSUP: Naval Supply Systems Command
NFESC: Naval Facilities Engineering Services Ctr.
NSN: National Stock Number
NSTIM: National Society of Testing and Materials
NSWC: Naval Surface Warfare Center
NSWCCD: NSWC, Carderock Division
ODS: Ozone-depleting substance
OPNAV: Operations Navy
OPNAVINST: OPNAV Instruction
PACFLT: Pacific Fleet
P2A: Pollution Prevention Afloat
PMS: Planned Maintenance System
POC: Point of contact
ppm: Parts per million
POS: Personnel Qualification Standards
PWP: Plastics waste processor
RADM: Rear Admiral
R&D: Research and development
SECNAV: Secretary of the Navy
SHIPALT: Ship Alteration
SSES: Ship Systems Engineering Station
SYSCOM: Systems Command
UNDS: Uniform National Discharge Standards
USS: United States Ship



Spotlight on N45's Rear Admirals Andy Granuzzo and Larry Baucom



► **RADM Andrew
A. Granuzzo**



◀ **RADM Larry
C. Baucom**

RADM **ANDREW A. GRANUZZO**, Director of the CNO's Environmental Protection, Safety, and Occupational Health Division (N45) since February 1998, retired in March 2000 after nearly 42 years of naval service. As N45, he oversaw the completion of the PWP program and UNDS Phase I, the pulper/shredder installation startup, and the publication of the Navy's environmental-protection doctrine (NWP 4-11).

Prior to N45, RADM Granuzzo was Deputy Commander in Chief Iberian Atlantic Area, Commander and Director of Joint Interagency Task Force East, and Commander of the Naval Safety Center. Promoted to Rear Admiral in 1991, he assumed command of Amphibious Group Two. At sea he was commander of Helicopter Anti-Submarine Squadron 15 and two amphibious ships, the USS *Inchon* (LPH-12) and USS *Saipan* (LHA-2), navigator of the aircraft carrier USS *Forestal* (CV-59), attack helicopter pilot in Vietnam, and enlisted flight technician on Naval Airships. His staff and shore assignments included a tour as a station search and rescue pilot in Fallon, NV, duty as a flight instructor, service on the Navy Air Staff in Washington, DC, and a tour with the Operations Directorate of the Joint Staff during the Gulf War.

RADM Granuzzo, a native New Yorker who enlisted in the Navy in 1958, is a graduate of the Armed Forces Staff College and the National War College. He holds a Bachelor's degree from the University of West Florida and an MBA from Marymount University. His awards include the Defense Superior Service Medal (three awards), Legion of Merit (four awards), and Vietnam Service medals. 🦋

RADM **LARRY C. BAUCOM** WILL ASSUME control of N45 upon RADM Granuzzo's retirement (see left). RADM Baucom joins N45 after successfully completing his assignment as the Assistant Chief of Staff for Plans and Policy for NATO's Supreme Allied Commander, Atlantic.

RADM Baucom commanded the USS *Carl Vinson* (CVN-70) and the USS *Trenton* (LPD-14) during the 1990s. While under his command, the *Vinson* was awarded two Meritorious Unit Commendations and the Battle Efficiency Award for 1996, following a highly successful Arabian Gulf deployment that included combat operations in support of Operation Desert Strike.

Prior to commanding Navy ships, RADM Baucom commanded the "World Famous Pukin' Dogs" of Fighter Squadron 143 aboard the USS *Dwight D. Eisenhower* (CVN-69) in the late 1980s. He also served as a project officer for the development of radar and weapons systems in the F/A 18.

RADM Baucom started his Navy career as a fighter pilot who flew F-4B and F-14A aircraft in two extended Mediterranean deployments with Fighter Squadron 32 aboard the USS *John F. Kennedy* (CV-67).

A native of Columbia, SC, RADM Baucom graduated from the U.S. Naval Academy in 1970 and holds a Master's degree in Systems Management from the University of Southern California. He also holds a Master's degree in National Security and Strategic Studies from the Naval War College. He received his Naval flight officer wings in August 1971. 🦋



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MARK THESE DATES...

- **Third Thursday of Each Month: ASNE Committee on Environmental Engineering's Lunch-Time Seminars;** 1200–1300 hours (bring your lunch); held at various offices in Crystal City (Arlington), VA; POC: David Breslin, BreslinDA@navsea.navy.mil. For topics, dates, and times, go to www.navalengineers.org/CEE/CEE.html.
- **Various Dates:** Naval Occupational Safety and Health, and Environmental Training Center (NAVOSHENVTRACEN) courses. See the FY-2000 Course Catalog at www.norva.navy.mil/navosh/table00.htm or call NAVOSHENVTRACEN at 757/445–8778, DSN 565–8778 x300.
- **21 April 2000 (Rain Date 24 April 2000):** Navy Earth Day 2000 Show, Navy Memorial, Washington, DC; POC: Mr. Ken Hess, 703/418–3417, HessK@egginc.com.
- **2–4 May 2000:** Halon Options Technical Working Conference, Albuquerque, NM; POC: Ms. Leanne Oliver, 505/272–7250, fax 505/272–7203, Oliver@nmeri.unm.edu, <http://nmeri.unm.edu/cget/confinfo.htm>.
- **May 2000:** The 2000 Navy/Marine Corps Clean Air Act Conference, the Crowne Plaza Hotel, Seattle, WA. Please register by 4 April 2000 using the CNO N45 Web site at <http://web.dandp.com/n45/conferences/air/>. POCs: Mr. Felix Mestey, 202/685–9313, DSN 325–9313, MesteyF@navfac.navy.mil; and Mr. Drek Newton, 805/982–3903, DSN 551–3903, NewtonDA@nfesc.navy.mil.
- **27–29 June 2000:** Navy Water Conference, Charleston, SC. POC: Ms. Deborah Perkins, 202/685–9314, DSN 325–9314, PerkinsDW@navfac.navy.mil.
- **1–3 August 2000:** Navy Pollution Prevention Conference, Pentagon City (Arlington), VA. For more information, go to <http://206.5.146.100/n45/conferences/index.html>
- **21–24 August 2000:** Annual Joint Service Pollution Prevention/Hazardous Waste Conference, San Antonio, TX. See www.afcee.brooks.af.mil/events.asp.
- **29–31 August 2000:** Fleet Environmental Conference, Norfolk, VA. Please see the SEIC Web page or call the Clearinghouse for more information.
- **12–14 September 2000:** Fleet Environmental Conference, San Diego, CA. Please see the SEIC Web page or call the Clearinghouse for more information.



➔ See these events and more at the Navy SEIC Calendar page at www.navyseic.com/calendar.htm

➔ Also check out the calendar at DENIX, www.denix.osd.mil/denix/Public/Calendar/display.cgi



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WHAT IS THE CLEARINGHOUSE?

The purpose of the **Navy Shipboard Environmental Information Clearinghouse** is to provide one-stop shopping for the Fleet and inform the Navy community on all shipboard environmental issues: policy, people, R&D, ozone-depleting substances, solid waste, liquid waste, hazardous materials, Uniform National Discharge Standards, and Pollution Prevention Afloat (P²A) success stories. Our extensive resources include *but are not limited to* the following:

- ▶ **Policy and Regulations.** Copies of Navy advisories, directives, instructions, and regulations.
- ▶ **Status of Shipboard Environmental Equipment Installations.** Updates on the latest technology on board ships.
- ▶ **Vendor Information.** Prices; availability; product information (material data safety data sheets, technical data sheets, and Chemical Abstract Service (CAS) numbers); technical reports; and user experience.
- ▶ **Alternative Chemicals.** Facts on existing and newly developed alternatives or processes including vendor, toxicity, and application data.
- ▶ **Status of Military Documents Requiring Modifications.** Specifications, maintenance requirement cards, technical manuals, etc.
- ▶ **Miscellaneous.** EPA technician-certification programs; information from industry and professional organizations; EPA rules; more.



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